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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|------------------------------|------------------------|
| 10/643,015 | 08/18/2003 | Todd S. Emrick | 7163 | 2962 |
| 22922 7590 12/11/2007 REINHART BOERNER VAN DEUREN S.C. ATTN: LINDA KASULKE, DOCKET COORDINATOR 1000 NORTH WATER STREET SUITE 2100 MILWAUKEE, WI 53202 | | | EXAMINER FEELY, MICHAEL J | |
| | | | ART UNIT 1796 | PAPER NUMBER |
| | | | MAIL DATE 12/11/2007 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/643,015

Applicant(s)

EMRICK ET AL.

Examiner

Michael J. Feely

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 and 26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-13 and 20-24 is/are allowed.
- 6) ☒ Claim(s) 1-5, 14, 15 and 18 is/are rejected.
- 7) ☐ Claim(s) 16, 17, 19 and 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>20070531</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Pending Claims

Claims 1-26 are pending.

Declarations Under 37 CFR 1.131

1. The declarations filed on September 27, 2007 under 37 CFR 1.131 have been considered but are ineffective to overcome the Dubertret et al. reference (Pub. No.: US 2004/0033345) reference.

Neither declaration provides a sufficient explanation of the evidence. The affidavit or declaration and exhibits must clearly explain which facts or data applicant is relying on to show completion of his or her invention prior to the particular date. Vague and general statements in broad terms about what the exhibits describe along with a general assertion that the exhibits describe a reduction to practice (*see section 3 of the declaration*) "amounts essentially to mere pleading, unsupported by proof or a showing of facts" and, thus, does not satisfy the requirements of 37 CFR 1.131(b) – *see MPEP 715.07*.

The first four pages of evidence appear to show the synthesis of the ligand material; however, the handwriting is barely legible. The fifth and sixth pages of evidence appear to show the synthesis of a functionalized substrate; however, it is not clear if the substrate is a nano-particle (*as claimed*). Again the handwriting is barely legible. ***Applicant is advised to provide a summary of the experiments featured in the evidence.***

Response to Amendment

2. The rejection of claims 11 and 12 under 35 U.S.C. 102(b) as being anticipated by Hakimi et al. (US Pat. No. 5,849,860) has been overcome by amendment.
3. The rejection of claims 20-23 under 35 U.S.C. 102(e) as being anticipated by Dubertret et al. (Pub. No.: US 2004/0033345) has been overcome by amendment.

Response to Arguments

4. Applicant's arguments, see pages 6-7, filed September 27, 2007, with respect to Siiman et al. (US Pat. No. 6,235,540) have been fully considered and are persuasive. The rejection of claims 1-3, 20, and 21 has been withdrawn.

Claim Objections

5. Claim 26 is objected to because of the following informalities: claim 26 is dependent from cancelled claim 25. Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
7. The rejection of claims 1-5, 14, 15, and 18 under 35 U.S.C. 102(e) as being anticipated by Dubertret et al. (Pub. No.: US 2004/0033345) *stands for the reasons of record*.

Regarding claims 1-5, Dubertret et al. disclose **(I)** a composite (paragraph 0017) comprising a metallic nanoparticulate substrate component (paragraphs 0018-0022) and a

polymeric ligand component (paragraphs 0034-0037), said ligand component comprising a nitrogenous coupling moiety coupling said ligand component and said substrate component (paragraphs 0051, 0056-0057, and 0066-0067: *indirectly linked via the hydrophobic core layer*); **(2)** wherein said substrate comprises a nanoparticle selected from CdSe, CdS, CdTe, ZnS, ZnSe, Co and combinations thereof (paragraphs 0018-0022); **(3)** wherein said nitrogenous moiety is selected from amino, pyridinyl and aminopyridinyl moieties (paragraphs 0056-0057 and 0066-0067); **(4)** wherein said polymeric ligand component is selected from poly(ethylene glycol), poly(hexaethylene glycol), poly(hexadecylethylene glycol), poly(ϵ -caprolactone), poly(lactide), poly(glycolide), polyglycidyl, polypropylene oxide and combinations thereof (paragraphs 0056-0057 and 0066-0067); and **(5)** wherein said polymeric component comprises poly(ethylene glycol), said component with a terminus comprising a functional group moiety selected from hydroxyl, alkyl, alkoxy, carboxylate, thymine, ammonium salt and substituted ammonium salt moieties (paragraphs 0056-0057 and 0066-0067).

Regarding claims 14, 15, and 18, Dubertret et al. disclose **(14)** a system for nanoparticle dispersion, said system comprising: a composite comprising a nanoparticulate substrate (paragraphs 0018-0022) and a first ligand component (paragraphs 0032-0033), said composite in a first liquid medium (paragraphs 0032-0033); and a second ligand component in a second liquid medium, said second ligand component at least partially soluble in said second liquid medium (paragraphs 0034-0037) and selected from poly(ethylene glycol), poly(hexaethylene glycol), poly(hexadecylethylene glycol), poly(ϵ -caprolactone), poly(lactide), poly(glycolide), polyglycidyl, polypropylene oxide and combinations thereof (paragraphs 0056-0057 and 0066-0067), said second ligand component comprising a nitrogenous coupling moiety (paragraphs

0066-0067); **(15)** wherein said second ligand component has an affinity for said nanoparticulate substrate greater than said first ligand component (paragraphs 0032-0037, 0051, 0056-0057, and 0066-0067); and **(18)** wherein said nanoparticulate substrate comprises CdSe (paragraph 0021) and said second ligand component has an affinity for said nanoparticulate substrate greater than said first ligand component (paragraphs 0032-0037, 0051, 0056-0057, and 0066-0067).

Allowable Subject Matter

8. Claims 6-13 and 20-24 are allowed.
9. Claims 16, 17, and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
10. Claim 26 is objected to as being dependent upon a objected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Communication

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

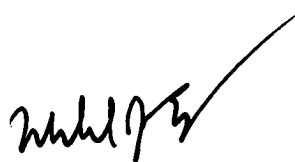
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is 571-272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Michael J. Feely
Primary Examiner
Art Unit 1796

December 9, 2007

**MICHAEL FEELY
PRIMARY EXAMINER**